



Gold Bar WWTP Update

Capilano Community League – Executive
November 21, 2018

Outline

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GBWWTP – Planning Overview

1999 – SSSF Original Concept

- Based on the technologies available at the time, the 1999 original concept assumption was that the GBWWTP would be able to handle growth in flows until the 2040's. After that time, growth in flows would be directed to the ACRWWTP.

Gold Bar Integrated Resource Plan (IRP) – 2016

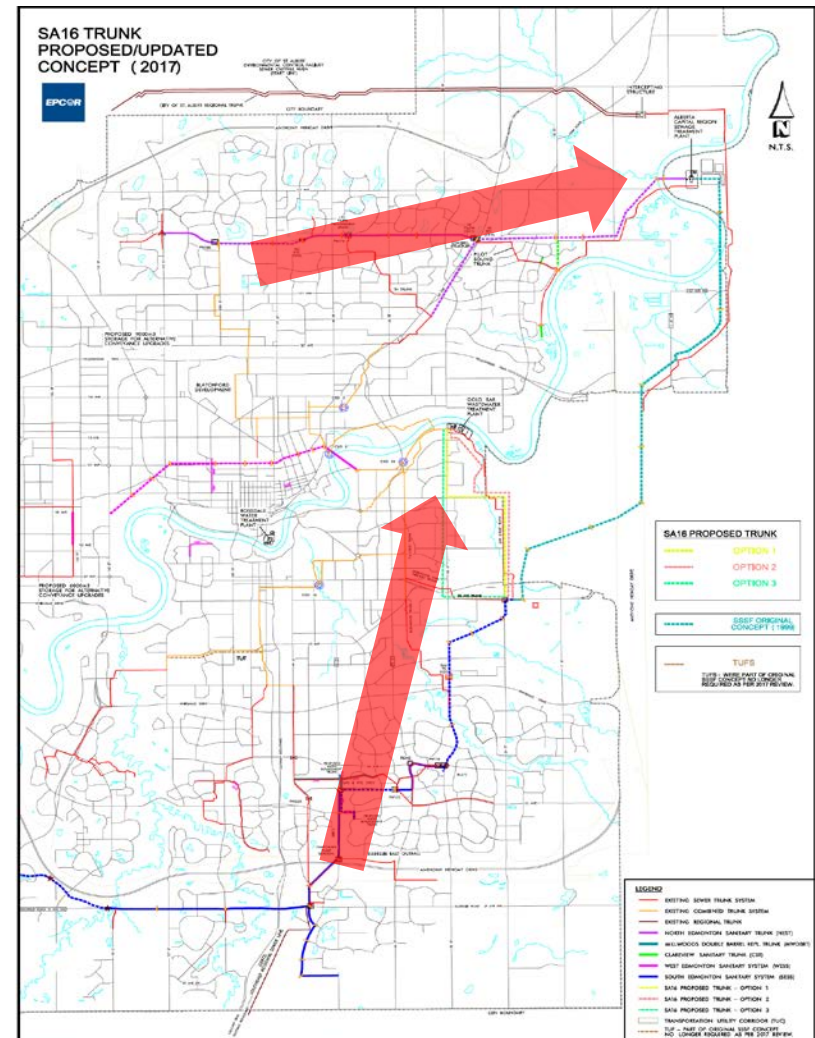
- With advancement in wastewater treatment technology (not available in 1999) within the fenceline, the GBWWTP can treat increased flows from South Edmonton for the foreseeable future.
- This was a key consideration in the June 2017 SSSF Management Committee decision to direct the long-term flows from South Edmonton to the GBWWTP for treatment.

Updated Gold Bar Integrated Resource Plan – Spring 2019

- EPCOR is in the process of updating the GBWWTP IRP and plans to table this with Utility Committee for feedback in Spring 2019.
- The IRP will inform capital plans for the 2022–2026 PBR and beyond.

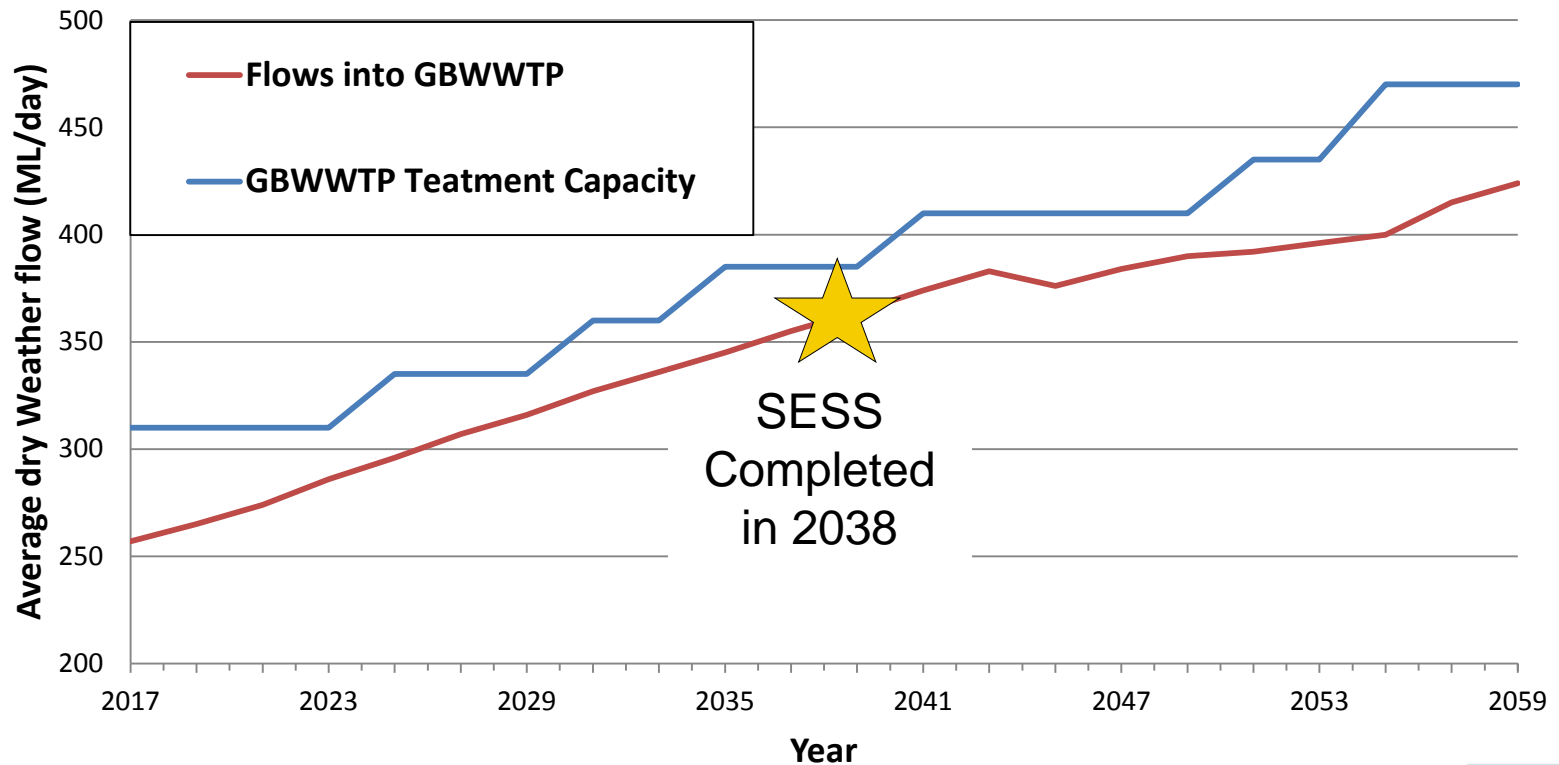
2017 SESS Decision

- The 2017 SSSF Decision is a Regional Optimization Decision about where it is best to treat flows in the long term (post 2038).
 - Flows from the south will be directed towards Gold Bar (with technology advances, Gold Bar will have the capacity to handle increased flows).
 - Flows from the north will be directed to the ACRWWTP.
 - Routing south flows to Gold Bar reduces the length of the SESS pipe by 11 km, resulting in a savings of \$160 M.
- Under all scenarios, Gold Bar must continue to handle increased flows from population growth through 2038.
- There is no step increase in flows to Gold Bar immediately following the completion of the SESS – existing flows will simply travel through the new pipe.
- SESS will be sized to handle growth post-2038.



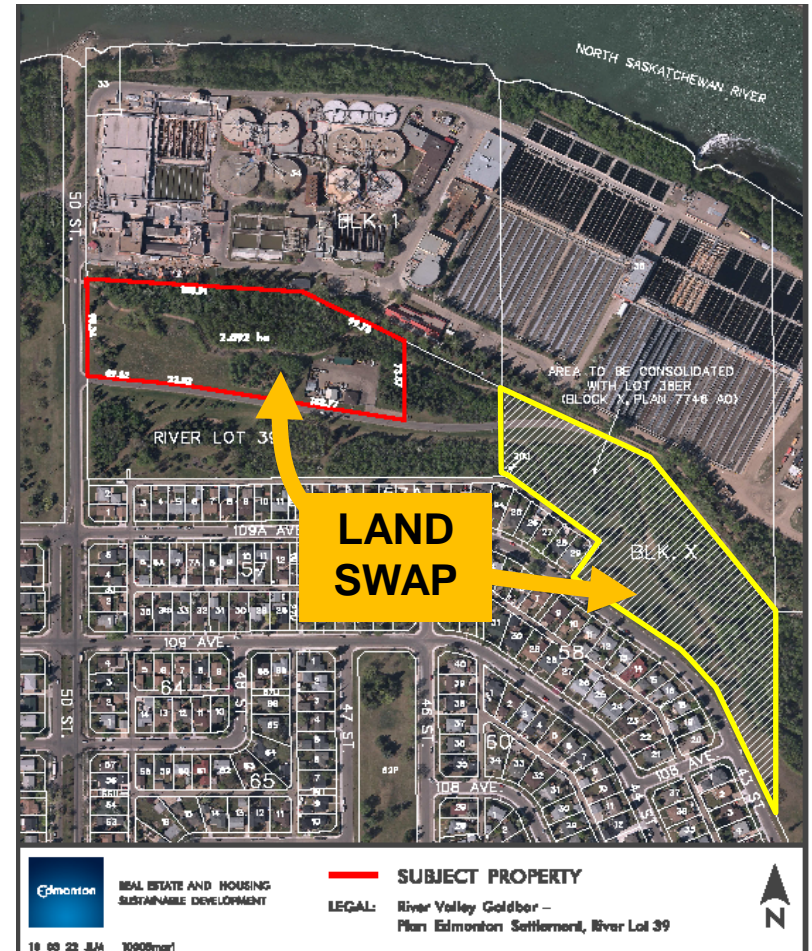
Gold Bar WWTP Capacity

- Utilizing advanced wastewater treatment technology, the GBWWTP can treat growth in flows up to 2038 when the final leg of the SESS pipe is commissioned and beyond, while minimizing impacts to the community.



2009 Land Swap

- There has been a longstanding plan to relocate non-processing buildings (maintenance, administration, control) from the center of the plant to the land outside of the fence line at the south edge of the plant. (area in red).
 - This relocation would open up space in the very congested solids treatment part of the plant which improves site safety.
- To facilitate this plan, a “Land Swap” was included in the Gold Bar Master Agreement with the transfer to EPCOR in 2009.
 - Area outlined in red is being transferred to EPCOR.
 - Hatched land area in yellow is being transferred to City.
- Transfer will be completed once discussion with the City Parks Yard and Nordic Ski Club Facilities are complete.
- EPCOR is consulting with the public on future land use and commits that no wastewater processing infrastructure will be located on the transferred parcel.



Operations Centre Project



- Operations Centre Project was included in the 2017-2021 PBR (\$19.36 M)
- This project involves the development of a new office building to provide proper staff hygiene facilities
 - Current facilities do not have proper separation of clean and dirty clothing (having showers between clean lockers and dirty lockers).
 - Some locker and shower facilities require staff to walk through process areas, and lockers themselves are in process hallways.
- The Operations Centre will be located inside the south fenceline of the plant

Operations Centre Project



- The operations Centre Project included the development of additional parking to relieve congestion and safety issues.
- Gold Bar has just 130 spots adjacent to processing infrastructure - Requirements can reach 200 with construction activities – overflow is in Gold Bar Park.
- 26 spots will be eliminated when construction of the Operations Centre begins.
- To address the longstanding congestion and safety issues EPCOR initiated consultation on the development of a new surface parking lot between Gold Bar Park Rd. and the multi-use trail utilizing the Parks Yard site. It would connect to the new Operations Centre (Blue rectangle on map) via a foot bridge over the multi-use trail.
- Based on feedback from our consultation process – we are considering additional options
- Our plan is to bring them back to the community for further consultation in the new year.

Odour Management

Source of Odour

- The conveyance of wastewater through the drainage system and through a wastewater plant has the potential to emit odours.
- The greatest source of odour is hydrogen sulphide gas (H₂S) – which has a rotten-egg smell that can be detected even at very low levels.

Health and Safety

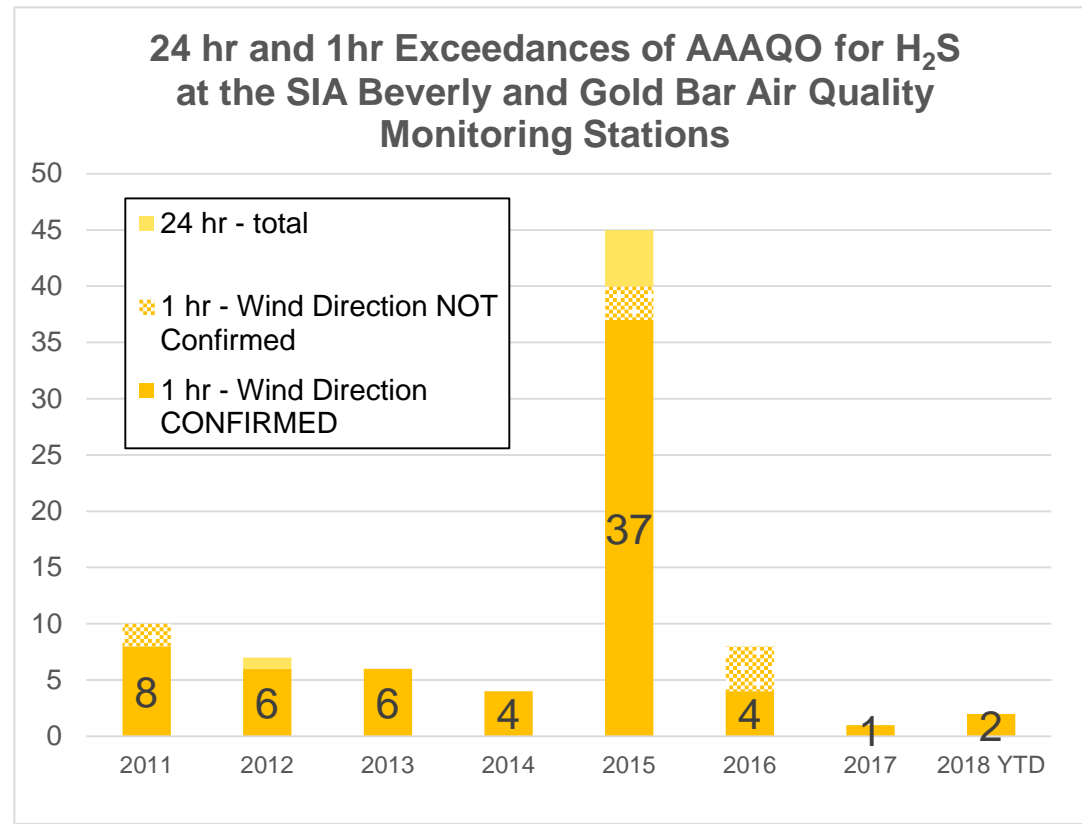
- H₂S gas in high concentrations can be dangerous to people.
- Alberta Occupational Health Regulations require that short term exposure be < 15,000 parts per billion (ppb) and daily exposure be < 10,000 ppb.
- In 2016, the Alberta Minister of Health confirmed that: "...the current evidence does not support any restriction of activities or identify a health risk to users of Gold Bar Park."

Ambient Air Quality

- H₂S gas can be detected by people at levels below 10 ppb.
- Alberta Environment has published the Alberta Ambient Air Quality Objective (AAAQO) which is an average of no higher than 10 ppb over a one hour period and an average of no higher than 3 ppb over a twenty-four hour period.

Odour Management

- EPCOR is a member of the Strathcona Industrial Association (SIA) who conducts environmental monitoring across the region – reported on its website.
- Since 2011, EPCOR has been tracking average hourly and daily H₂S levels at the SIA Beverly and Gold Bar Stations
- The number of one hour exceedances over the AAAQO average of 10 ppb (human perception) had been trending down since 2011 until 2015 when the odour scrubbing equipment at the GBWWTP failed.
- Results have improved considerably since 2015.



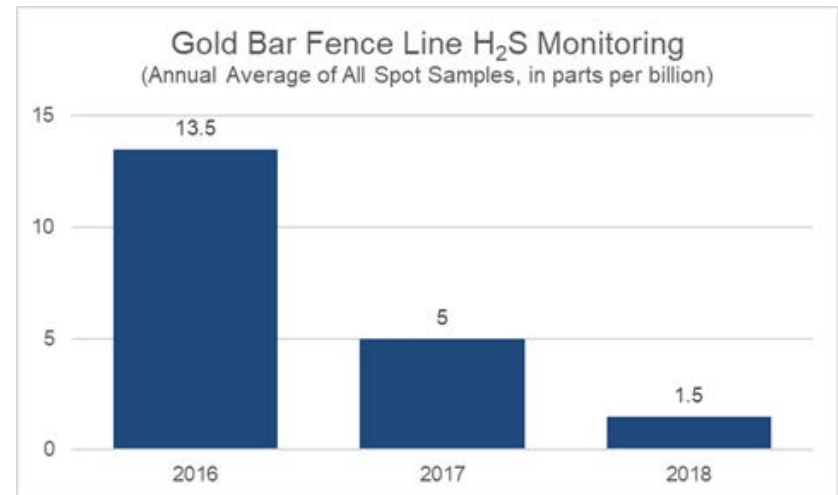
Odour Management

- **2016 Emissions Reduction Plan**
- **Operational Improvements Implemented:**
 - Clean tanks immediately after removing wastewater from tanks for maintenance
 - Keep doors to buildings closed as much as possible
- **\$10.2 M in Capital Upgrades Nearing Completion:**
 - Balance odour collection system ducting – \$2.5 M
 - Improvements to scrubbers – \$1.6 M
 - Enhanced Primary Treatment (EPT) covers and collection system – \$5.1 M
 - Continuous odour monitoring system to be completed in 2019 – \$1 M
- **Capital upgrades and operational improvements will continue to be implemented**



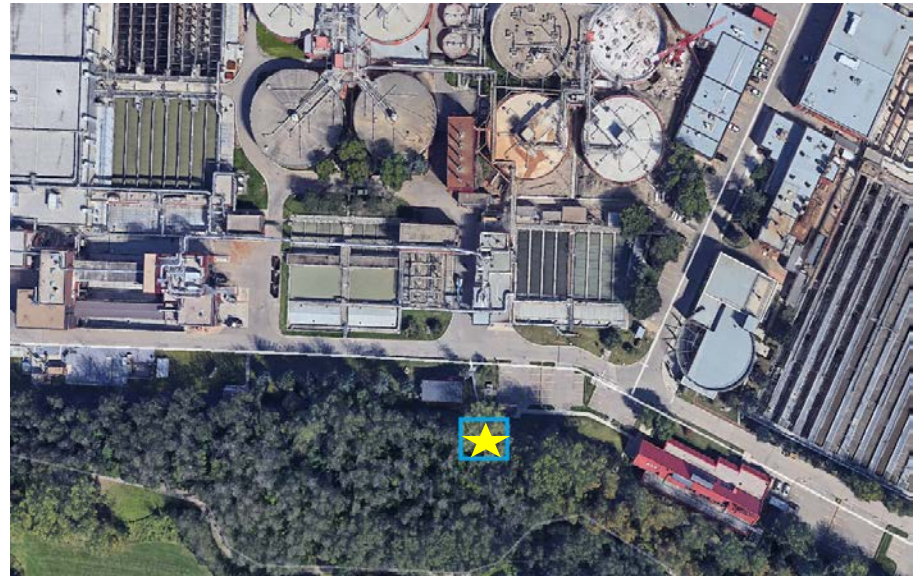
Odour Management

- EPCOR has been collecting “spot” air samples at 8 fenceline locations beginning in 2016
- There has been significant improvements in levels as a result of operational improvements and capital upgrades
 - 72% of spot samples taken in 2018 show H₂S levels of 0 ppb.
 - 22 of 1,112 samples in 2018 show results above 10 ppb, the threshold for smelling odour (2%, vs 9% in 2017).



Gold Bar Lift Station

- EPCOR is upgrading infrastructure related to two wastewater influent pipelines coming in to the south side of the plant.
- The work includes installing infrastructure both inside and outside of our existing fence line - along the utility corridor.
- This work is required to prevent the potential of backflow into residential and industrial customers
- Notification/Consultation has occurred.



Diversion Structure Rehabilitation

- The Diversion Structure is located at the front end of the plant near 50th St. It is the interconnection between the drainage collection system and the GBWWTP influent channels.
- This project will rehabilitate and upgrade the Diversion Structure.
- To safely isolate the structure, the construction area will extend towards 50th street outside the current fence line.
 - Capilano Park access will be maintained.
 - Construction will be phased over the next two to three years, with activities mostly happening in winter.



Green Gas Opportunity

- A by-product of the wastewater treatment process is “biogas”.
 - Currently, some of this gas is captured at the GBWWTP and utilized for process heating year round and plant heating in the winter.
 - Utilizing this biogas reduces the amount of non-renewable natural gas we buy to heat the plant.
 - The unutilized biogas is flared.
- Instead of flaring the gas, we see an environmentally friendly opportunity to capture this unutilized green gas, clean it and inject it back into the ATCO natural gas distribution system to offset use of non-renewable natural gas.
 - Reduced flaring also results in a darker night sky, less noise and less odour in the atmosphere.
- EPCOR is currently assessing these alternatives. If the project moves ahead, it will require some additional biogas cleaning and injection infrastructure.
 - The project will go through community consultation and permitting.

Community Engagement

1. What would you like engagement to look like moving forward?

- What types of issues are important for us to consult with you on?
- What updates would you like to be informed about?
- What forums/mediums work well for you for consultation and/or information sharing (CL meetings, CLC, open house, mailers, website)?
- Should info/consultation be through your CL executive or through the CLC?

Current Lines of Communication

- Community Liaison Committee (CLC)
- Community Newsletters
- Gold Bar Web content
- EPCOR Stakeholder Consultation Phone line
- Odour Report Process - 311
- Project related engagement

Community Liaison Committee

- Two year term ends in 2018, recruiting for 2019-2020
- Community League involvement crucial
- Current Members:
 - Capilano Community League
 - Gold Bar Community League
 - Fulton Place Community League
 - Beverly Heights Community League
 - Highlands Community League
 - Nordic Ski Club

Thank You